

REMARKS

Claims 1-13 are pending in this application. No new claims have been added.

(1) Claims 1-4, 17-19 were rejected under 35USC103(a) as being unpatentable over Schmidt et al. (US5,134,054) in view of Ohsumi et al. (US6,001,537). Office Action, paragraph 4.

Applicants traverse the rejection. Schmidt et al. teach that a photosensitive film such as photoresist is applied over the entire solder resist and the photoresist is subsequently exposed in the desired regions with the help of a laser beam to form a light shielding mask, as alleged by the Office Action, page 3, lines 8-11. However, Schmidt et al. teach forming the light shielding mask in a different manner from the present invention. Please see the Table at page 4 of the Remarks.

In the present invention, an irradiated portion of laser becomes a mask to shield an ultraviolet ray. On the contrary, Schmidt et al. teach that a non-irradiated portion of laser becomes a mask, which is used for development in a solvent.

In addition, in the present invention, the non-irradiated portion remains at the time when exposing ultraviolet rays, transmitting the ultraviolet ray to expose the solder resist material. On the contrary, Schmidt et al. teach that the irradiated portion has to be removed by solving.

Furthermore, the present invention exposes the solder resist material to an ultraviolet ray through the unexposed portion of the light shielding mask, as recited in claim 1. Since Schmidt et al. teach development of the photoresist material, it is difficult to modify Schmidt et al. to expose the solder resist material to an ultraviolet ray through the unexposed portion of the light shielding mask.

Even if Ohsumi et al teach that ultraviolet rays are used to expose a photosensitive material on a surface of a predetermined pattern in order to form a precision pattern, as alleged in Office Action, page 3, lines 17-19, the present invention cannot be obtained only by the teachings of Ohsumi et al., since the present invention is fundamentally different from Schmidt et al. as described above, and Ohsumi et al. do not further teach to modify Schmidt et al. into the present invention. Reconsideration of the rejection is respectfully requested.

Table

			Note
Present Invention			
Photosensitive film 23	Irradiated portion of laser becomes a mask to absorb an ultraviolet ray.	Non-irradiated portion of laser becomes a portion not to absorb an ultraviolet ray.	See Figs. 12(C)-(D) of the present invention. Non-irradiated portion need not be removed.
Solder resist			Solder resist material which will finally remain (Fig.12F) is covered by the non-irradiated photosensitive film 23, which does not absorb an ultraviolet ray.
Schmidt			
Positively-acting photoresist 6	Irradiated portion of laser becomes soluble, and removed.	Non-irradiated portion of laser remains to become a mask in development.	See Figs. 4-5. Irradiated portion has to be removed.

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Photoresist			Photoresist film which will finally remain (Fig. 7) is covered by the unexposed portion of the positively-acting photoresist 6 (Fig.5), which is not intended to transmit ultraviolet rays, but is intended to be developed in an aqueous alkaline solutions or organic solvents.
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(2) Claims 5-13 were rejected under 35 USC103(a) as being unpatentable over Shmidt et al in view of Ohsumi et al and Shinmoto et al. Office Action, paragraph 5.

The examiner's statement is based on modified Schmidt et al. Modified Schmidt et al. cannot be obtained by merely combining Schmidt et al. with Ohsumi et al. as described above. Thus, even if one combined with modified Schmidt et al. with Shinmoto et al., the present invention cannot be obtained.

In addition, claims 5-13 are directly or indirectly dependent on claim 1, which is now in condition for allowance. Reconsideration of the rejection is respectfully requested.

In view of the aforementioned amendments and accompanying remarks, claims 1-13 and 17-19 are in condition for allowance. Applicants request such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the

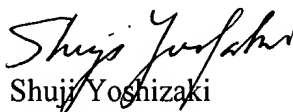
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Examiner is requested to contact Applicants' undersigned agent at the telephone number indicated below to arrange for an interview to expedite the disposition of this case. The limited recognition of the agent is attached.

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. The fees for such an extension or any other fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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Limited Recognition

Attachment: Limited Recognition

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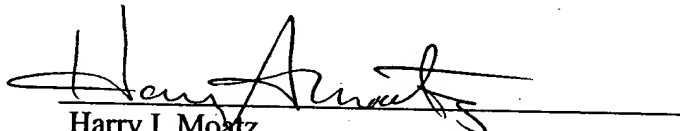
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Expires: July 8, 2004


Harry I. Moatz
Director of Enrollment and Discipline